# CONTENTS OF VOLUME 55

## PART 1 (March 1999)


**EDITOR'S INVITED PAPERS**

Bayesian Phylogenetic Inference via Markov Chain Monte Carlo Methods . . . B. Mau, M. A. Newton, and B. Larget 1
Fundamentals of Survival Data . . . . . P. Hougaard 13
The Graft Versus Leukemia Effect after Bone Marrow Transplantation: A Case Study Using Structural Nested Failure Time Models . . . . . N. Keiding, M. Filiberti, S. Esbjerg, J. M. Robins, and N. Jacobsen 23
Hazard Models for Line Transect Surveys with Independent Observers . . . . . H.J. Skaug and T. Schweder 29

---

A Model for Thermograms . . . . . S. Robin 37
Flexible Parametric Measurement Error Models . . . . . R. J. Carroll, K. Roeder, and L. Wasserman 44
Genetic Models with Reduced Penetrance Related to the *Y* Chromosome . . . . . R. W. R. Darling and T. Holt 55
Hypothesis Testing Under Mixture Models: Application to Genetic Linkage Analysis . . . . . K.-Y. Liang and P. J. Rathouz 65
Use of Summary Measures to Adjust for Informative Missingness in Repeated Measures Data with Random Effects . . . . . M. C. Wu and D. A. Follmann 75
Mixed Effects Models with Bivariate and Univariate Association Parameters for Longitudinal Bivariate Binary Response Data . . . . . T. R. Ten Have and A. Morabia 85
Semiparametric Methods for Multiple Exposure Mismeasurement and a Bivariate Outcome in HIV Vaccine Trials . . . . . G. T. Golm, M. E. Halloran, and I. M. Longini, Jr. 94
An Estimation Method for the Semiparametric Mixed Effects Model . . . . . H. Tao, M. Palta, B. S. Yandell, and M. A. Newton 102
Bias-Corrected Confidence Intervals for the Concentration Parameter in a Dilution Assay . . . . . J. Wang and S. Basu 111
A General Maximum Likelihood Analysis of Variance Components in Generalized Linear Models . . . . . M. Aitkin 117
Maximum Likelihood Analysis for Heteroscedastic One-Way Random Effects ANOVA in Interlaboratory Studies . . . . . M. G. Vangel and A. L. Rukhin 129
Estimating Intraclass Correlation for Binary Data . . . . . M. S. Ridout, C. B. G. Demétrio, and D. Firth 137
Response Surfaces for Overdispersion in the Study of the Conditions for Fish Eggs Hatching . . . . . J. K. Lindsey 149
Comparing the Performances of Diggle's Tests of Spatial Randomness for Small Samples with and without Edge-Effect Correction: Application to Ecological Data . . . . . J. Gignoux, C. Duby, and S. Barot 156
A Partial Ranking Method for Identifying Repeated Inclusion of Individuals in Anonymized HIV Infection Reports . . . . . D. Greenhalgh, M. T. Doyle, and J. Mortimer 165
Discriminant Analysis of Event-Related Potential Curves Using Smoothed Principal Components . . . . . K.-A. Do and K. Kirk 174
A Random Effects Model for Multivariate Failure Time Data from Multicenter Clinical Trials . . . . . J. Cai, P. K. Sen, and H. Zhou 182
Statistical Inference for Self-Designing Clinical Trials with a One-Sided Hypothesis . . . . . Y. Shen and L. Fisher 190
Survival and Hazard Functions for Progressive Diseases Using Saddlepoint Approximations . . . . . S. Huzurbazar and A. V. Huzurbazar 198
Adaptive Regression Splines in the Cox Model . . . . . M. LeBlanc and J. Crowley 204
Likelihood Methods for Incomplete Longitudinal Binary Responses with Incomplete Categorical Covariates . . . . . S. R. Lipsitz, J. G. Ibrahim, and G. M. Fitzmaurice 214
Estimating the Size of a Transient Population . . . . . R. D. Routledge, G. E. J. Smith, L. Sun, N. Dawe, E. Nygren, and J. S. Sedinger 224
Robustness of Group Testing in the Estimation of Proportions . . . . . M. Hung and W. H. Swallow 231
Local EM Estimation of the Hazard Function for Interval-Censored Data . . . . . R. A. Betensky, J. C. Lindsey, L. M. Ryan, and M. P. Wand 238
Approximate Monte Carlo Conditional Inference in Exponential Families . . . . . J. E. Kolassa and M. A. Tanner 246

**SHORTER COMMUNICATIONS**

Poisson Regression with Missing Durations of Exposure . . . . . D. Y. Lin, P. Arbogast, D. S. Siscovick, and R. N. Lemaitre 252
Robustness of the Latent Variable Model for Correlated Binary Data . . . . . M. Tan, Y. Qu, and J. S. Rao 258
Unconditional Versions of Several Tests Commonly Used in the Analysis of Contingency Tables . . . . . B. Freidlin and J. L. Gastwirth 264
A Hierarchical Bayesian Model for Combining Multiple 2 x 2 Tables Using Conditional Likelihoods . . . . . J. G. Liao 268
A Note on an Exact Test and Confidence Interval for Competition and Overlap Effects . . . . . G. K. Shukla and G. S. V. Subrahmanyam 273
A Group Sequential Test for Survival Trials: An Alternative to Rank-Based Procedures . . . . . Z. Li 277
The Utility of Mixed-Form Likelihoods . . . . . R. J. Cook and V. T. Farewell 284
Power and Sample Size for Testing Homogeneity of Relative Risks in Prospective Studies . . . . . J.-Mo Nam 289

**CONSULTANT'S FORUM**

The Use of Mixed Logit Models to Reflect Heterogeneity in Capture-Recapture Studies . B. A. Coull and A. Agresti 294
Analyzing $k$ (2 x 2) Tables Under Cluster Sampling . . . . . M. D. Begg 302
Regression Modeling of Ordinal Data with Nonzero Baselines . . . . . M. Xie and D. G. Simpson 308
Maximally Selected $\chi^2$ Statistics for $k$ x 2 Tables . . . . . R. A. Betensky and D. Rabinowitz 317
Estimation of Offspring Production from a Limited Number of Stage-Structured Censuses . . . . . Ø. Bakke and S.-H. Lorentsen 321

**BOOK REVIEWS** . . . . . 326

# PART 2 (June 1999)


**EDITOR'S INVITED PAPERS**

Evolution and Biometry: Presidential Address ..... S. R. Wilson 333

Matrix Methods for Estimating Odds Ratios with Misclassified Exposure Data: Extensions and Comparisons ..... M. J. Morrissey and D. Spiegelman 338

Nonparametric Estimation of a Delay Distribution Based on Left-Censored and Right-Truncated Data ..... J. Cui 345

Optimal Diversity-Dependent Contributions of Genotypes to Mixtures ..... R.-P. Wei and F. C. Yeh 350

A Multiplicative-Epistatic Model for Analyzing Interspecific Differences in Outcrossing Species ..... R. Wu and B. Li 355

A Goodness-of-fit Test for Capture-Recapture Model $M_t$ Under Closure ..... T. R. Stanley and K. P. Burnham 366

A Study of Deleterious Gene Structure in Plants Using Markov Chain Monte Carlo ..... J. K. Lee, M. Lascoux, M. A. Newton, and E. V. Nordheim 376

Estimation of the Size of an Open Population from Capture-Recapture Data Using Weighted Martingale Methods ..... R. M. Huggins and P. S. F. Yip 387

Two-Stage Design of Quantal Response Studies ..... R. R. Sitter and C. F. J. Wu 396

Repeated Probit Regression When Covariates Are Measured With Error ..... D. A. Follmann, S. A. Hunsberger, and P. S. Albert 403

Population HIV-1 Dynamics *In Vivo*: Applicable Models and Inferential Tools for Virological Data from AIDS Clinical Trials ..... H. Wu and A. A. Ding 410

A Bayesian Approach to Ordering Gene Markers ..... A. W. George, K. L. Mengersen, and G. P. Davis 419

Symmetric Tests and Confidence Intervals for Survival Probabilities and Quantiles of Censored Survival Data ..... S. Barber and C. Jennison 430

Optimum Experimental Designs for Multinomial Logistic Models ..... S. S. Zocchi and A. C. Atkinson 437

Applying the Cox Proportional Hazards Model When the Change Time of a Binary Time-Varying Covariate Is Interval Censored ..... W. B. Goggins, D. M. Finkelstein, and A. M. Zaslavsky 445

Analysis of Infant Growth Curves Using Multivariate Adaptive Splines ..... H. Zhang 452

Adjusted Regression Trend Test for a Multicenter Clinical Trial ..... H. Quan and T. Capizzi 460

Finite Mixture Modeling with Mixture Outcomes Using the EM Algorithm ..... B. Muthén and K. Shedden 463

An Empirical Comparison of Several Clustered Data Approaches Under Confounding Due to Cluster Effects in the Analysis of Complications of Coronary Angioplasty ..... J. A. Berlin, S. E. Kimmel, T. R. Ten Have, and M. D. Sammel 470

A Bayesian Semiparametric Accelerated Failure Time Model ..... S. Walker and B. K. Mallick 477

Bayesian Design and Analysis of Active Control Clinical Trials ..... R. Simon 484

Generalized Estimating Equations for Ordinal Categorical Data: Arbitrary Patterns of Missing Responses and Missingness in a Key Covariate ..... A. Y. Toledano and C. Gatsonis 488

Modeling Random Effects for Censored Data by a Multivariate Normal Regression Model ..... J. P. Klein, C. Pelz, and M.-j. Zhang 497

Fitting Semi-Markov Models to Interval-Censored Data with Unknown Initiation Times ..... G. A. Satten and M. R. Sternberg 507

Discrete-Time Nonparametric Estimation for Semi-Markov Models of Chain-of-Events Data Subject to Interval Censoring and Truncation ..... M. R. Sternberg and G. A. Satten 514

New Residuals for Cox Regression and Their Application to Outlier Screening ..... A. Nardi and M. Schemper 523

Locally Efficient Estimation of the Quality-Adjusted Lifetime Distribution with Right-Censored Data and Covariates ..... M. J. van der Laan and A. Hubbard 530

Summarizing the Motion of Self-Propelled Cells: Applications to Sperm Motility ..... D. B. Dunson, C. R. Weinberg, S. D. Perreault, and R. E. Chapin 537

The Knox Method and Other Tests for Space-Time Interaction ..... M. Kulldorff and U. Hjalmars 544

Modeling Heterogeneity in Nest Survival Data ..... R. Natarajan and C. E. McCulloch 553

Reduced Sensitivity to Hidden Bias at Upper Quantiles in Observational Studies with Dilated Treatment Effects ..... P. R. Rosenbaum 560

**SHORTER COMMUNICATIONS**

Stochastic Algorithms for Markov Models Estimation with Intermittent Missing Data ..... I. Deltour, S. Richardson, and J.-Y. Le Hesran 565

Robust Regression for Clustered Data with Application to Binary Responses ..... J. S. Preisser and B. F. Qaqish 574

A Global Goodness-of-Fit Statistic for Cox Regression Models ..... M. Parzen and S. R. Lipsitz 580

Bayesian Analysis and Model Selection for Interval-Censored Survival Data ..... D. Sinha, M.-H. Chen, and S. K. Ghosh 585

Monte Carlo EM for Missing Covariates in Parametric Regression Models ..... J. G. Ibrahim, M.-H. Chen, and S. R. Lipsitz 591

On Logit Confidence Intervals for the Odds Ratio with Small Samples ..... A. Agresti 597

Bayesian Monitoring of Event Rates with Censored Data ..... D. A. Follmann and P. S. Albert 603

Analysis of Multistage Pooling Studies of Biological Specimens for Estimating Disease Incidence and Prevalence ..... R. Brookmeyer 608

SIMEX Variance Component Tests in Generalized Linear Mixed Measurement Error Models ..... X. Lin and R. J. Carroll 613

Exact Tests of Goodness of Fit of Log-Linear Models for Rates ..... J. W. McDonald, P. W. F. Smith, and J. J. Forster 620

Mixed Effects Models with Censored Data with Application to HIV RNA Levels ..... J. P. Hughes 625

Statistical Issues in a Metaregression Analysis of Randomized Trials: Impact on the Dietary Sodium Intake and Blood Pressure Relationship ..... C. M. T. Greenwood, J. P Midgley, A. G. Matthew, and A. G. Logan 630

Multivariate Survival Analysis with Positive Stable Frailties ..... Z. Qiou, N. Ravishanker, and D. K. Dey 637

**CONSULTANT'S FORUM**

Comparison of Several Independent Population Means When Their Samples Contain Log-Normal and Possibly Zero Observations ..... X.-H. Zhou and W. Tu 645

Predictive Margins with Survey Data ..... B. I. Graubard and E. L. Korn 652

**READER REACTION**

Memory in Coal Tits: An Alternative Model ..... M. S. Ridout 660

Modelling Ties in the Sign Test ..... J. C. W. Rayner and D. J. Best 663

**BOOK REVIEWS** ..... 666

## PART 3 (September 1999)


**REGULAR ARTICLES**

Likelihood Ratios for Evaluating DNA Evidence When the Suspect is Found Through a Database Search ..... A. Stockmarr 671

Simulated Likelihood Methods for Complex Double-Platform Line Transect Surveys ..... T. Schweder, H. J. Skaug, M. Langaas, and X. K. Dimakos 678

Marginally Specified Logistic-Normal Models for Longitudinal Binary Data ..... P. J. Heagerty 688

Approximate Standard Errors in Semiparametric Models ..... M. Durban, C. A. Hackett, and I. D. Currie 699

Kriging with Nonparametric Variance Function Estimation ..... J. D. Opsomer, D. Ruppert, M. P. Wand, U. Holst, and O. Hössjer 704

Estimation of the Correlation Between Nutrient Intake Measures Under Restricted Sampling ..... C. Y. Wang, G. L. Anderson, and R. L. Prentice 711

Using Pooled Exposure Assessment to Improve Efficiency in Case–Control Studies ..... C. R. Weinberg and D. M. Umbach 718

Bayesian Inference for Small-Sample Capture–Recapture Data ..... V. Chavez-Demoulin 727

Valid Inference in Random Effects Meta-Analysis ..... D. A. Follmann and M. A. Proschan 732

Modeling a Poisson Forest in Variable Elevations: A Nonparametric Bayesian Approach . J. Heikkinen and E. Arjas 738

Treatment Comparisons Based on Two-Dimensional Safety and Efficacy Alternatives in Oncology Trials ..... P. F. Thall and S.-C. Cheng 746

Estimation in Independent Observer Line Transect Surveys for Clustered Populations ..... S. X. Chen 754

Likelihood Models for Clustered Binary and Continuous Outcomes: Application to Developmental Toxicology ..... M. M. Regan and P. J. Catalano 760

Local Bandwidth Selection for Kernal Estimation of Population Densities with Line Transect Sampling ..... P. D. Gerard and W. R. Schucany 769

Using a Mixed Effects Model to Estimate Geographic Variation in Cancer Rates ..... G. A. Pennello, S. S. Devesa, and M. H. Gail 774

A Simple Permutation-Type Method for Testing Circular Uniformity with Correlated Angular Measurements ..... D. A. Follmann and M. A. Proschan 782

Efficiency of Estimating Vaccine Efficacy for Susceptibility and Infectiousness: Randomization by Individual Versus Household ..... S. Datta, M. E. Halloran, and I. M. Longini, Jr. 792

A Condition for Designing Bus-Route Type Access Site Surveys to Estimate Recreational Fishing Effort ..... S. X. Chen and J. L. Woolcock 799

A Marginal Mixed Baseline Hazards Model for Multivariate Failure Time Data ... L. X. Clegg, J. Cai, and P. K. Sen 805

Modeling Clustered, Discrete, or Grouped Time Survival Data with Covariates ..... E. A. Ross and D. Moore 813

Highly Resistant Regression and Object Matching ..... I. L. Dryden and G. Walker 820

Fitting the log-*F* Accelerated Failure Time Model with Incomplete Covariate Data ..... M. Cho and N. Schenker 826

Testing for Age-at-Onset Anticipation with Affected Parent–Child Pairs ..... D. Rabinowitz and Q. Yang 834

Estimating Equations for a Latent Transition Model with Multiple Discrete Indicators ..... B. A. Reboussin, K.-Y. Liang, and D. M. Reboussin 839

Statistical Quality Control of Variety Trial Data ..... J. Öfversten 846

Modification of Sample Size in Group Sequential Clinical Trials ..... L. Cui, H. M. J. Hung, and S.-J. Wang 853

A Bayesian Hierarchical Approach for Combining Case–Control and Prospective Studies ..... P. Müller, G. Parmigiani, J. Schildkraut, and L. Tardella 858

Dual Screening ..... W. O. Johnson and L. M. Pearson 867

A Unifying Family of Group Sequential Test Designs ..... J. M. Kittelson and S. S. Emerson 874

**SHORTER COMMUNICATIONS**

Efficiency Robust Tests for Survival or Ordered Categorical Data .... B. Freidlin, M. J. Podgor, and J. L. Gastwirth 883

A Penalized Likelihood Approach for a Progressive Three-State Model with Censored and Truncated Data: Application to AIDS ..... P. Joly and D. Commenges 887

Standard Errors of Heritabilities for Forage Breeding Nurseries ..... D. Real and I. L. Gordon 891

Assessing Distributions of Estimated Drug Shelf Lives in Stability Analysis ..... Y. Sun, S.-C. Chow, G. Li, and K.-W. Chen 896

Estimating Equations for Parameters in Stochastic Growth Models from Tag–Recapture Data ..... Y.-G. Wang 900

Estimation of Population Size Based on Additive Hazards Models for Continuous-Time Recapture Experiments ..... P. S. F. Yip, Y. Zhou, D. Y. Lin, and X.-Z. Fang 904

Regression Analysis of Doubly Censored Failure Time Data with Applications to AIDS Studies ..... J. Sun, Q. Liao, and M. Pagano 909

A Mixed Model for Two-State Markov Processes Under Panel Observation ..... R. J. Cook 915

Exact Inference for Growth Curves with Intraclass Correlation Structure ..... S. Weerahandi and V. W. Berger 921

Optimal Designs When the Variance Is A Function of the Mean ..... H. Dette and W. K. Wong 925

**CONSULTANT'S FORUM**

Modeling Daily and Subdaily Cycles in Rat Sleep Data ..... P. Qiu, R. Chappell, W. Obermeyer, and R. Benca 930

Modeling a Categorical Variable Allowing Arbitrarily Many Category Choices ..... A. Agresti and I-M. Liu 936

Prediction Using Partly Conditional Time-Varying Coefficients Regression Models ..... M. S. Pepe, P. Heagerty, and R. Whitaker 944

An Application of Isotonic Longitudinal Marginal Regression to Monitoring the Healing Process ..... L. Fahrmeir, C. Gieger, and C. Heumann 951

Relating the Classical Covariance Adjustment Techniques of Multivariate Growth Curve Models to Modern Univariate Mixed Effects Models ..... S. K. Mikulich, G. O. Zerbe, R. H. Jones, and T. J. Crowley 957

Modeling Tumor Onset and Multiplicity Using Transition Models with Latent Variables ..... D. B. Dunson and J. K. Haseman 965

Decision Theoretic Designs for Phase II Clinical Trials with Multiple Outcomes ..... N. Stallard, P. F. Thall, and J. Whitehead 971

Selection Models and Pattern-Mixture Models for Incomplete Data with Covariates ..... B. Michiels, G. Molenberghs, and S. R. Lipsitz 978

**READER REACTION**

Estimating Equations with Nonignorably Missing Response Data ..... Y.-G. Wang 984

**CORRESPONDENCE** ..... 990

**BOOK REVIEWS** ..... 992

# PART 4 (December 1999)


**REGULAR ARTICLES**

Genomic Control for Association Studies . . . B. Devlin and K. Roeder 997
A New Approach to Modeling Daily Probabilities of Conception . . . P. Royston and A. Ferreira 1005
The Stratified Petersen Estimator with a Known Number of Unread TagsC. J. Schwarz, M. Andrews, and M. R. Link 1014
Empirical Bayes Estimation of Random Effects Parameters in Mixed Effects Logistic Regression Models . . . T. R. Ten Have and A. R. Localio 1022
Likelihood-Based Experimental Design for Estimation of $ED_{50}$ . . . S. Minkin and K. Kundhal 1030
Empirical Bayes Estimation for Combinations of Multivariate Bioassays . . . D. G. Chen, E. M. Carter, J. J. Hubert, and P. T. Kim 1038
Minimally Selected $p$ and Other Tests for a Single Abrupt Changepoint in a Binary Sequence . . . A. L. Halpern 1044
Multitype Spatial Point Patterns with Hierarchical Interactions . . . H. Högmander and A. Särkkä 1051
Analysis of Experimental Data with Repeated Measurements . . . J. Reiczigel 1059
Improved Error Bounds for Genetic Distances from DNA Sequences . . . G. McGuire, M. J. Prentice, and F. Wright 1064
Bayesian Survival Analysis Using a MARS Model . . . B. K. Mallick, D. G. T. Denison, and A. F. M. Smith 1071
Estimating Regression Parameters and Degree of Dependence for Multivariate Failure Time Data . . . C. Mahé and S. Chevret 1078
Sequential Methods for Comparing Years of Life Saved in the Two-Sample Censored Data Problem . . . S. Murray and A. A. Tsiatis 1085
Confidence Bands for Cumulative Incidence Curves Under the Additive Risk Model . . . Y. Shen and S. C. Cheng 1093
Efficient Estimation of the Distribution of Quality-Adjusted Survival Time . . . H. Zhao and A. A. Tsiatis 1101
The Two-Sample Problem with Induced Dependent Censorship . . . Y. Huang 1108
Normal Approximation Diagnostics for the Cox Model . . . C.-C. H. Chang and L. A. Weissfeld 1114
Fitting a Regression Model for Genotype-by-Environment Data on Heading Dates in Grasses by Methods for Nonlinear Mixed Models . . . H.-P. Piepho 1120
Ascertainment Bias in Rate Ratio Estimation from Case–Sibling Control Studies of Variable Age-at-Onset Diseases . . . B. Langholz, A. Ziogas, D. C. Thomas, C. Faucett, M. Huberman, and L. Goldstein 1129
Two Approaches for Estimating Disease Prevalence from Population-Based Registries of Incidence and Total Mortality . . . M. H. Gail, L. Kessler, D. Midthune, and S. Scoppa 1137
Bayesian Inference for Prevalence in Longitudinal Two-Phase Studies . . . A. Erkanli, R. Soyer, and E. J. Costello 1145
A Multivariate Test of Interaction for Use in Clinical Trials . . . D. A. Follmann and M. A. Proschan 1151
A Class of Permutation Tests for Stratified Survival Data . . . J. H. Shih and M. P. Fay 1156
Hierarchical Proportional Hazards Regression Models for Highly Stratified Data . . . B. P. Carlin and J. S. Hodges 1162
Properties of a Nonparametric Test for Early Comparison of Treatments in Clinical Trials in the Presence of Surrogate Endpoints . . . E. S. Venkatraman and C. B. Begg 1171
Analysis of Covariance with Incomplete Data via Semiparametric Model Transformations . . . M. Grigoletto and M. G. Akritas 1177
Closed Testing Procedures for Group Sequential Clinical Trials with Multiple Endpoints D.-I. Tang and N. L. Geller 1188
Design of Validation Studies for Estimating the Odds Ratio of Exposure–Disease Relationships when Exposure Is Misclassified . . . C. A. Holcroft and D. Spiegelman 1193
Test-Based Exact Confidence Intervals for the Difference of Two Binomial Proportions . . I. S .F. Chan and Z. Zhang 1202

**SHORTER COMMUNICATIONS**

Allometric Extension . . . S. Bartoletti, B. D. Flury, and D. G. Nel 1210
Statistical Inference for Serial Dilution Assay Data . . . M.-L. T. Lee and G. A. Whitmore 1215
On the Equivalence of Meta-Analysis Using Literature and Using Individual Patient Data . . . T. Mathew and K. Nordström 1221
Validating Marker-Based Incidence Estimates in Repeatedly Screened Populations . . . G. A. Satten, R. Janssen, M. P. Busch, and S. Datta 1224
Estimating the Extent of Tracking in Interval-Censored Chain-of-Events Data . . . G. A. Satten 1228
Latent Model for Correlated Binary Data with Diagnostic Error . . . J. H. Shih and P. S. Albert 1232
Nonparametric Identification of the Minimum Effective Dose . . . Y.-I. Chen 1236
An Exact Test for All-Way Interaction in a $2^M$ Contingency Table: Application to Interval Capture–Recapture Estimation of Population Size . . . R. R. Regal and E. B. Hook 1241
Binary Regression for Risks in Excess of Subject-Specific Thresholds . . . H. Zhang and D. Zelterman 1247
A Mover–Stayer Model for Longitudinal Marker Data . . . P. S. Albert 1252
Rank-Based Tests for Dose Finding in Nonmonotonic Dose–Response Settings . . . Y.-I. Chen 1258
Estimating Equations for Removal Data Analysis . . . Y.-G. Wang 1263
The Variance for the Disequilibrium Coefficient in the Individual Hardy–Weinberg Test . J. J. Chen and G. Thomson 1269
On the Use of Historical Control Data for Trend Test in Carcinogenicity Studies . . . J. Sun 1273
Multivariate Elliptically Contoured Distributions for Repeated Measurements . . . J. K. Lindsey 1277
Polyhazard Models for Lifetime Data . . . F. Louzada-Neto 1281
Adaptive Sample Size Calculations in Group Sequential Trials . . . W. Lehmacher and G. Wassmer 1286
Small-Sample Confidence Regions in Exponential Families . . . J. E. Kolassa and M. A. Tanner 1291
Model Choice and Influential Cases for Survival Studies . . . W. H. Wei and J. S. Su 1295

**CONSULTANT'S FORUM**

Multiple Comparison of Entropies with Application to Dinosaur Biodiversity . . . K. S. Fritsch and J. C. Hsu 1300
A Hierarchical Bayesian Model to Predict the Duration of Immunity to *Haemophilus influenzae* Type b . . . K. Auranen, M. Eichner, H. Käyhty, A. K. Takala, and E. Arjas 1306

**READER REACTION**

A Comment on Optimal Allocations for Bioequivalence Studies . . . S. Senn and A. P. Grieve 1314

**CORRESPONDENCE**

Letter to the editor . . . 1316

**BOOK REVIEWS** . . . 1318

**ACKNOWLEDGEMENTS** . . . 1323